

Comparison of Kubernetes Operators for MySQL

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HighLoad++
Всё на 2021



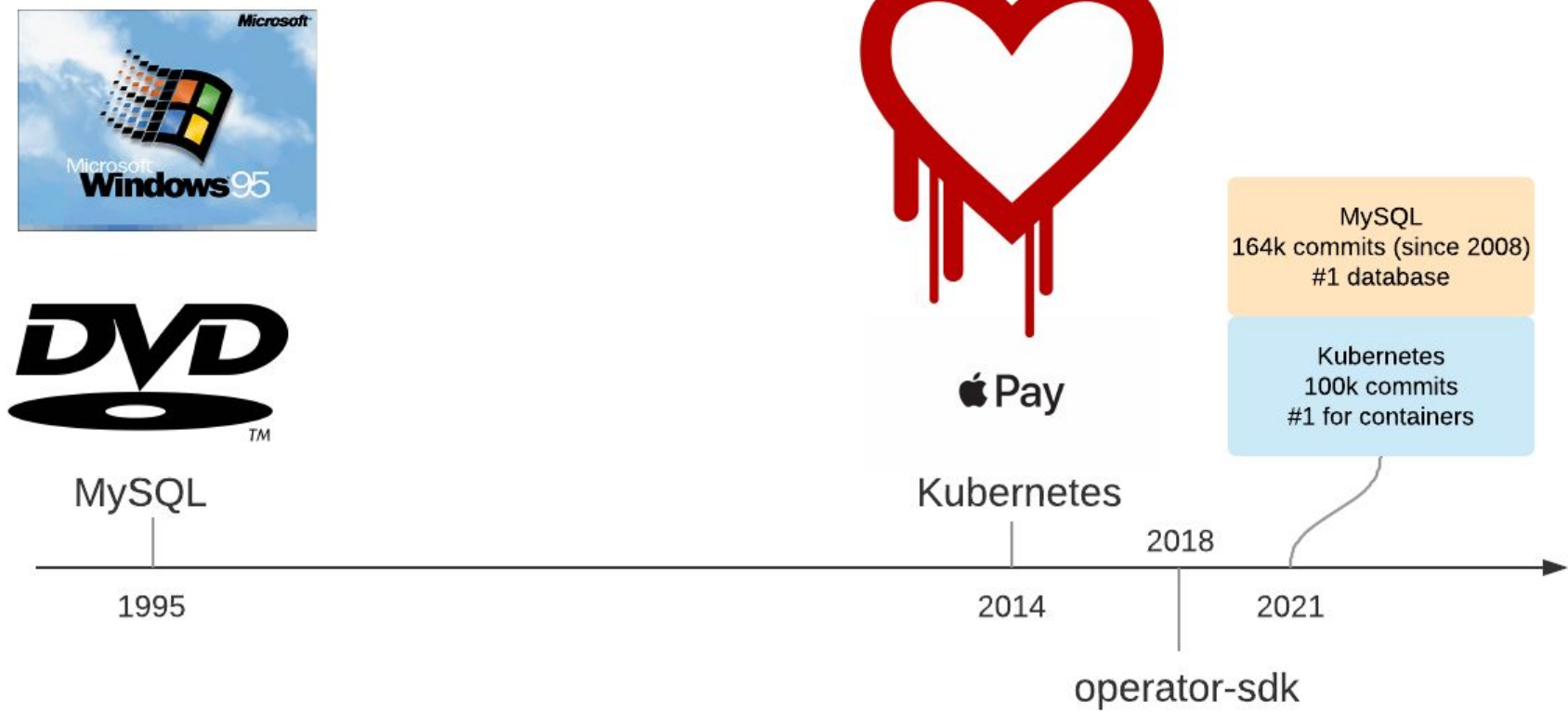
Planets

curl://

Earth

Mars

Planets known to have run curl



Why Operators

- **Customer driven decision**
- **Containers = Kubernetes**
 - Bare metal -> VM -> Containers
- **Operators = Simplification**
 - Automate deployment and management
- **Percona DBaaS**
 - Cloud and on-prem
 - Open source

MariaDB Operator



- Closed source
- After SkySQL release, every mention was removed from mariadb.com
- Used as an engine for SkySQL
- There is an unofficial MariaDB operator, no active dev

Oracle Operator



- **Old Operator - dead — latest release — 0.3.0**
- **On Percona Live 2021 announced new Operator**
 - Beta release in June 2021
 - Group replication
 - Open Source (Universal Permissive License (UPL))
 - C++ and Python (around mysql-shell)

KubeDB Operator



- **Swiss Army Knife, supports: Elasticsearch, Redis, Memcached, MongoDB, PostgreSQL, and MySQL**
- **The latest release — 0.18.0 (Apr 2021)**
- **MySQL version — 5.7.33, 8.0.23**
 - Supports Group Replication
- **Open source (open core)**
- **Supports Percona XtraDB Cluster, 5.7 only**

KubeDB Operator, cont.

Limitations:

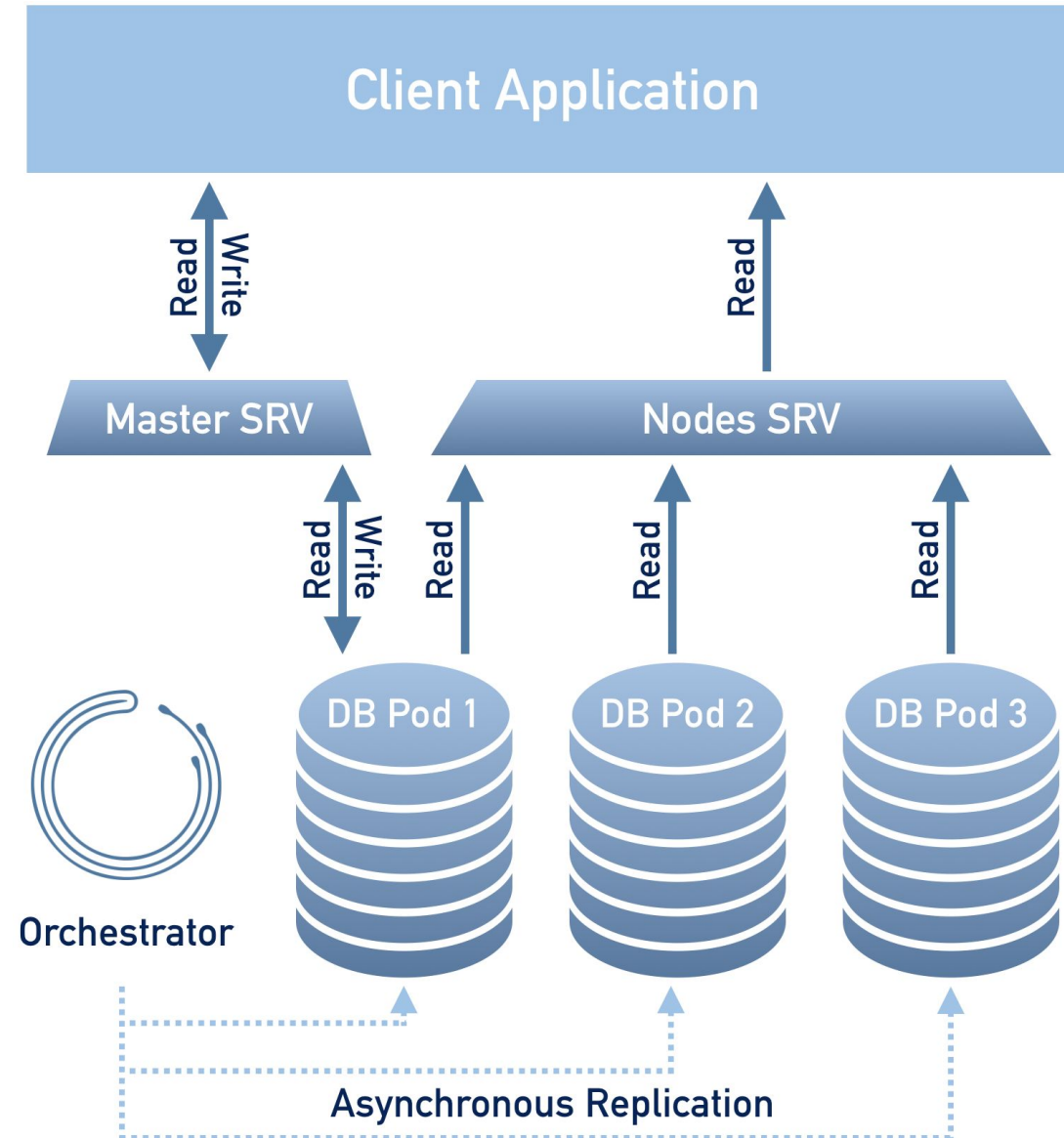
- **Limited features in community edition**
 - No proxying
 - No backup/restore
 - No scaling
 - No encryption
- **No proxy integration**

Presslabs Operator



- The latest release — 0.4.0 (Jun 2020)
- Percona Server for MySQL - 5.7.26 (Apr 2019)
- Open source
- Alpha state
- By default — regular asynchronous replication, semi-synchronous replication can be enabled.
- High Availability reached with Openark Orchestrator
- MySQL 8.0 is on the Roadmap

Presslabs Operator, architecture



Vitess Operator



Vitess

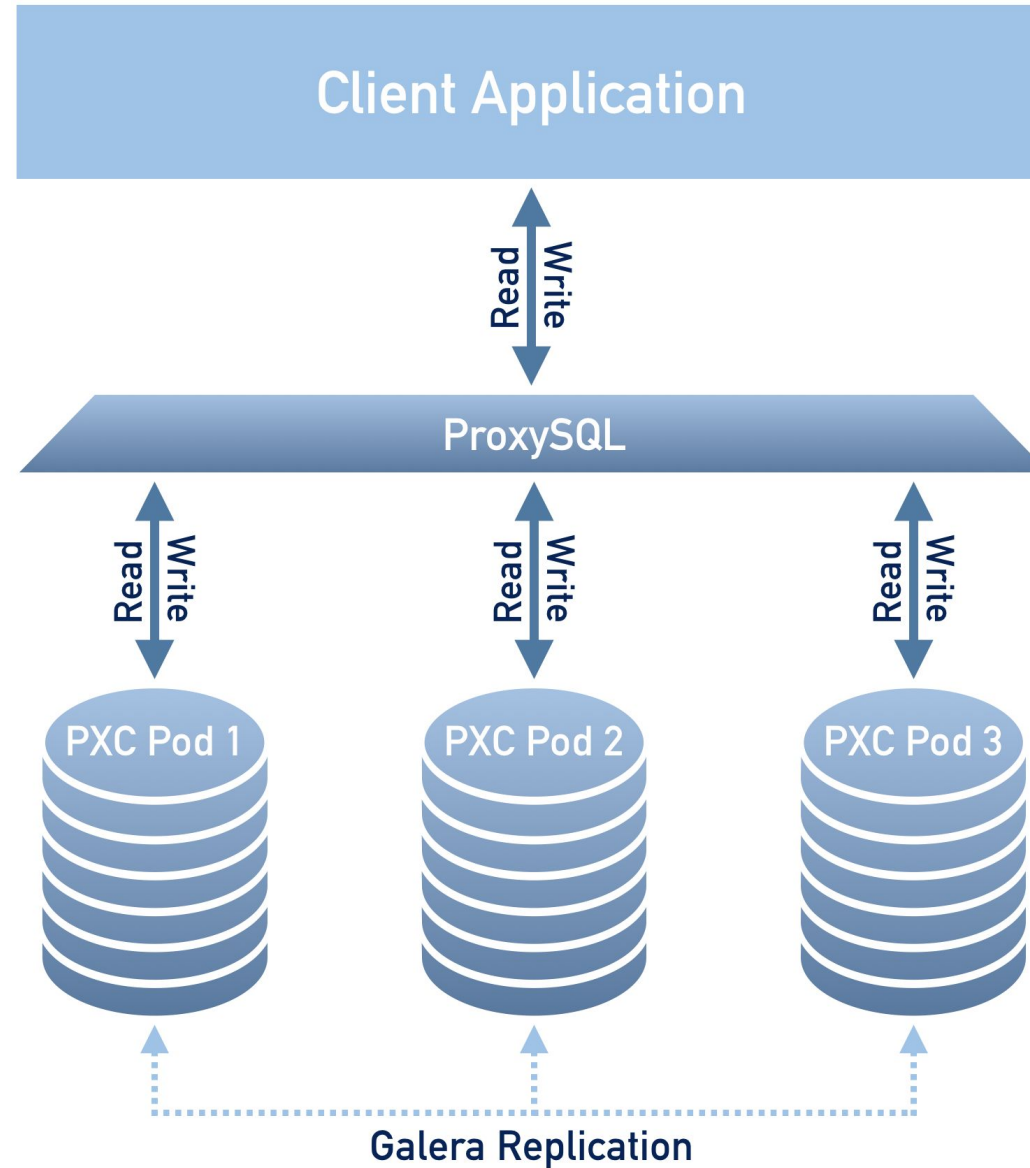
- The latest release — 2.4.0 (Apr 2020)
- Supports Percona Server for MySQL
- Open source
- General availability state
- By default — semi-synchronous replication, regular asynchronous replication can be enabled
- Solution is targeted for Sharding — One Shard mode is possible
- High Availability reached internally

Percona Operator































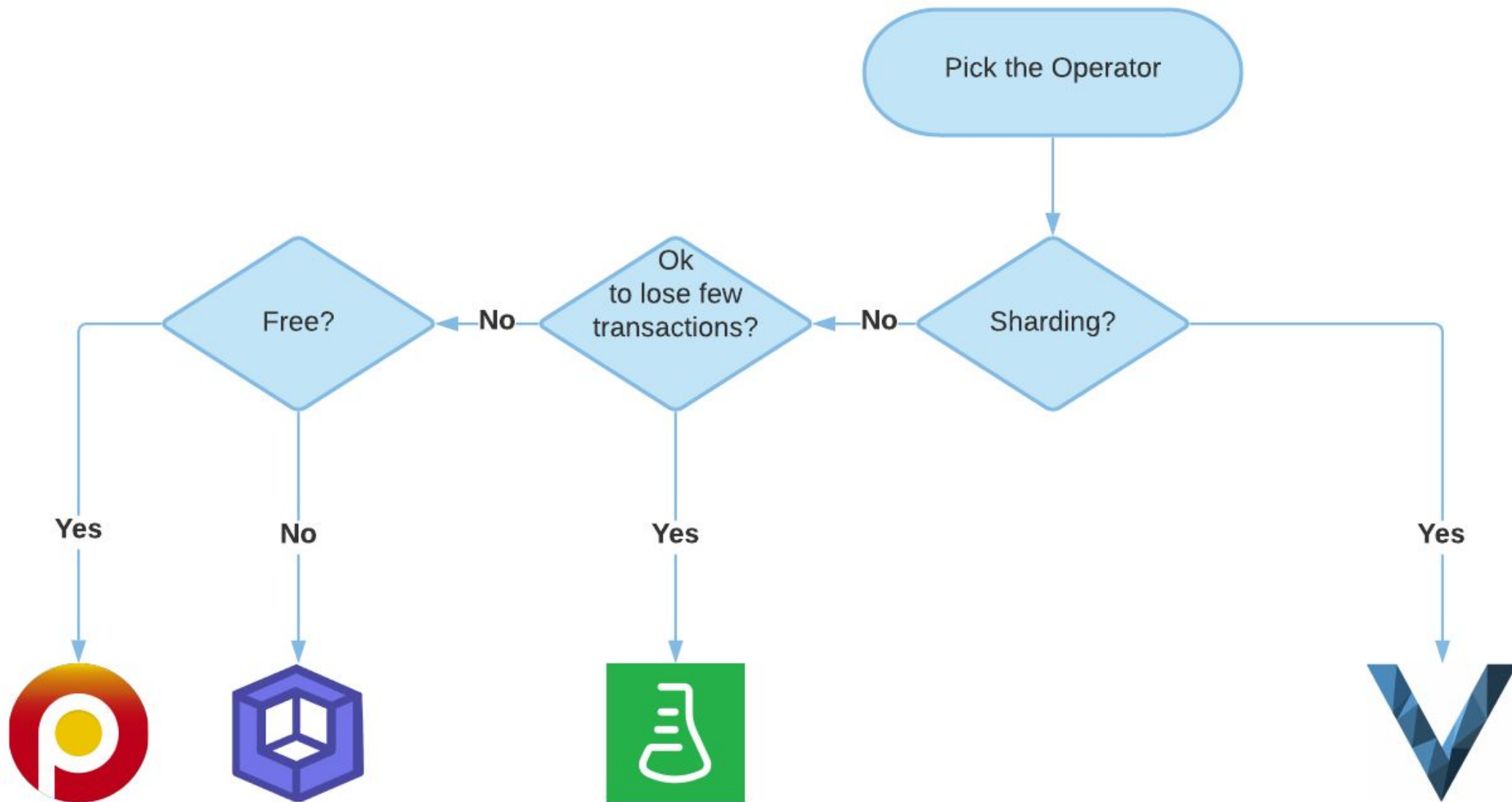
- The latest release — 1.8.0 (April 2021)
- Percona XtraDB Cluster version — 8.0.22, 5.7.33
- Open source
- General Availability state
- Galera Replication (multi-master)
- High Availability with HAProxy/ProxySQL

Percona Operator





				
Proxying				
Multi-Region				
Monitoring				
Encryption at Rest				
MySQL 8.0				
Simplicity				



What is coming

- **Disaster Recovery / Multi-region**
- **New Operator (or v2)**
 - Percona Server for MySQL vs PXC
 - Async replication
 - Group replication
 - Sharding

Thanks!

Thanks!



Any questions?

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